

Notice of Allowability

Application No.

09/761,254

Examiner

Mehrdad Dastouri

Applicant(s)

LELONG ET AL.

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on October 23, 2004.
2. ☒ The allowed claim(s) is/are 1-4 and 6-11(Renumbered 1-10).
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 12/16/2004.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Michael J. Balconi-Lamica (Registration No. 34,291) on December 15, 2004.

2. The application has been amended as follows:

In Line 1 of Claim 11, "A computer program product" has been changed to "A computer program product embodied in a computer readable medium".

Drawings

3. The drawings are objected to because of minor informalities in Figure 4. In Figure 4, empty blocks should be properly labeled in compliance with the specification description of components as required in 37 C.F.R. 1.84. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement

sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. The corrected drawings are required to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Response to Arguments

4. Applicant's arguments, see Page 6, last Paragraph through Page 8 of the instant amendment, filed October 23, 2004, with respect to Claims 1-4 and 6-11 have been fully considered and are persuasive. The rejection of Claims 1-4 and 6-11 has been withdrawn.

Allowable Subject Matter

5. The following is an examiner's statement of reasons for allowance:

The instant invention recited an image processing method and corresponding system and computer program product for providing three-dimensional geometric modeling of the spine, using a biplanar image reconstruction, comprising:

acquiring a first digital view of part of the spine and a second digital view of the same part of the spine taken from a different angle around the longitudinal axis of the spine, wherein each of the first and second digital views of the spine include a spine ribbon having a non-zero width and being substantially symmetrical with respect to a virtual axial line along an axis of vertebrae bodies of the spine in respective first and second digital views;

drawing an axial line (FAL, LAL) for each of the first and second digital views coinciding with the virtual axial line of the corresponding spine ribbon in a respective one of the first and second digital views, the real axial line being represented by a continuous line and wherein drawing the real axial line includes an operator using a control means to control a drawing program to digitally draw each axial line (FAL, LAL) as a piece-wise linear curve drawn from a start point to an end point along an estimate of the virtual axial line of the corresponding spine ribbon.

The invention further performs matching the dimensions of the digital views (F, L) from two predetermined corresponding landmarks on each view and performs a spline calculation to provide a smoothed axial line (FAC, LAC) on each digital view (Abstract; Section 4; Figures 4-6, esp. Figures 5a-5d; Section 3.2 and 4), and derives three-dimensional coordinates (z, x, y) of corresponding points (P) along the spine as a function of the smoothed axial lines (FAC, LAC).

The features identified, in combination, are neither discussed nor suggested by the prior arts of record.

6. Claims 1-4 and 6-11 are allowed.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mehrdad Dastouri
Primary Examiner
Art Unit 2623
December 16, 2004

**MEHRDAD DASTOURI
PRIMARY EXAMINER**

Mehrdad Dastouri